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EXAMINER

HOM, SHICK C

ART UNIT PAPER NUMBER

2616

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-11, 23-30, and 32-50 have been considered but are moot in view of the new ground(s) of rejection.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Priority

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 29 January 2000 and 10 August 1999. It is noted, however, that applicant has not filed a certified copy of the DE 100 04 007.1 and DE 199 37 706.5 applications as required by 35 U.S.C. 119(b).

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 46 is rejected under 35 U.S.C. 102(e) as being anticipated by Dawirs (6,040,801).

Dawirs disclose a method of transmitting information symbols, at a symbol rate (R), using a transmission system comprising a transmitter, a receiver, and a channel having a bandwidth (B) (in Figs. 1 and 2, see the transmitter 10; the receiver 21, and airborne communication channel), the method comprising: frequency spreading and time spreading the information symbols to provide an output signal; transmitting the output signal; receiving the transmitted output signal; frequency de-spreading and time de-spreading the output signal to provide the information symbols; adaptively controlling the frequency spreading and time spreading of the information

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symbols in relation to the transmission quality and channel characteristics (see col. 4 line 50 to col. 5 line 17 which recite transmitting and receiving signal using both the time and frequency spreading technique including the sequence generator for controlling the time and frequency spreading technique).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35

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U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-4, 7, 33, 35, 37-41, 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dawirs (6,040,801) in view of Caratori et al. (5,608,408).

Regarding claims 1-4, 7, 33, 35, 37-41, and 44-45:

Dawirs disclose a method of transmitting information symbols, at a symbol rate (R), using a transmission system comprising a transmitter, a receiver, and a channel having a bandwidth (B) (in Figs. 1 and 2, see the transmitter 10; the receiver 21, and airborne communication channel), the method comprising: frequency spreading and time spreading the information symbols to provide an output signal; transmitting the output signal; receiving the transmitted output signal; frequency de-spreading and time de-spreading the output signal to provide the information symbols; adaptively controlling the frequency spreading and time spreading of the information symbols in relation to the transmission quality and channel characteristics (see col. 4 line 50 to col. 5 line 17 which recite transmitting and receiving signal using both the time and

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frequency spreading technique including the sequence generator for controlling the time and frequency spreading technique).

Regarding claims 7, 44:

Dawirs disclose wherein at least one of transmitter power, bit error rate, and transmission speed is individually matched to a transmission system subscriber (see col. 5 line 57 to col. 6 line 19 which recite that the detected signal must be matched by the locally generated delayed signal).

Dawirs discloses all the subject matter of the claimed invention with the exception of wherein the frequency spreading of each information symbol is provided (i) by a quasi Dirac pulse formation and subsequent filtering or (ii) by digital signal processing as in claims 1, 38, 40-41, 45; wherein a transmission system gain is controlled by varying symbol rate as in claim 2; the step of adjusting the frequency and time spread of the information symbols in relation to at least one parameter selected from a group of parameters consisting of transmitter power, bit error rate, and transmission speed as in claims 3-4.

Caratori et al. from the same or similar fields of endeavor teach that it is known to provide wherein the frequency spreading of each information symbol is provided (i) by a quasi Dirac pulse formation and subsequent filtering or (ii) by digital signal processing as in claims 1 40, 45 (see col. 4

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lines 36-54 which recite the use of the Dirac pulse, the compression and correlation techniques, i.e. digital signal processing); wherein a transmission system gain is controlled by varying symbol rate as in claim 2; the step of adjusting the frequency and time spread of the information symbols in relation to at least one parameter selected from a group of parameters consisting of transmitter power, bit error rate, and transmission speed as in claims 3-4 (see col. 4 lines 36-54 which recite increasing the power gain by spreading the duration of the pulse in time). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide wherein the frequency spreading of each information symbol is provided (i) by a quasi Dirac pulse formation and subsequent filtering or (ii) by digital signal processing as taught by Caratori et al. in the communications method and system of Dawirs. The frequency spreading of each information symbol being provided (i) by a quasi Dirac pulse formation and subsequent filtering or (ii) by digital signal processing can be implemented by using the Dirac pulse formation and signal processing of Caratori et al. for spreading the information symbol of Dawirs. The motivation for using the Dirac pulse formation and subsequent signal processing as taught by Caratori et al. in the communication method and system of

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Dawirs being that it provides more efficiency for the system since the system uses known techniques for spreading the information symbol at the transmitting end.

Allowable Subject Matter

8. Claims 47-50 are allowed.

9. Claims 5-6, 8-11, 23-30, 32, 34, 36, and 42-43 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action

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is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C. Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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